

# MK 48 Torpedo Fiber Optic Guidance Tether

**Status:** Pending Transition

## PROBLEM / OBJECTIVE

The Torpedo MK-48 ADCAP employs a wire guidance system to provide post launch monitoring and command capability. The current design uses a sole source copper wire tether and payout assembly. The Office of Naval Research has demonstrated a fiber optic tether in heavyweight torpedo-like vehicles. The objective of this project is to develop a fiber optic dispenser winding process that will reduce the unit cost of a completed fiber optic dispenser to a cost comparable to the current MK-48 ADCAP torpedo copper wire payout system.

## ACCOMPLISHMENTS / PAYOFF

At the current usage rate of 600 dispensers per year with a savings of \$10,000 per unit, the annual cost avoidance is \$6M. In addition, the fiber optic tether is both lighter and more compact. It will provide nearly unlimited bandwidth to the torpedo, enabling improvements in range, capability, and lethality.

This technology was developed by and will be used by Sanmina SCI in Huntsville, AL. An automated fiber winder with diagnostics and an automated payout testing machine were developed under this project. This equipment is now operating on the Sanmina SCI factory floor. The Undersea Weapons Office (PMS 404) is directing the qualification program for introduction of this technology into the fleet.



*MK 48 MOD 5/6 XTV*

## TIME LINE / MILESTONE

Start Date: October 2002

End Date: February 2005

## FUNDING

Total ManTech Investment: \$700K

## PARTICIPANTS

Navy ManTech Program

NAVSEA Undersea Weapons Program Office PMS 404

Penn State Applied Research Laboratory (ARL)

Sanmina SCI

Electro-Optics Center